

WHAT IS CLAIMED IS:

1. A capacity control valve for modulating the capacity or the pressure of a control chamber by controlling the degree of opening of a valve section with a solenoid coil section via a pressure fluid of said control chamber flowing through the opened passage of said valve section, said control valve comprising:

- a first valve chamber disposed in said valve section and communicating with a first communicating passage for the discharge pressure;
- a first valve seat located in the passage between said first valve chamber and said first communicating passage;
- a third communicating passage for a first control chamber pressure communicating with said control chamber as well as said first valve chamber ;
- a second valve chamber communicating with a fourth communicating passage for a second control chamber pressure which communicates with said control chamber;
- a second communicating passage for a suction pressure communicating with a chamber of said suction pressure as well as said second valve chamber ;
- a second valve seat located in the passage between said second valve chamber and said second communicating passage;
- a first valve body disposed within said first valve chamber and having a second valve face which opens or closes against said first valve seat ;
- a second valve body disposed within said second valve chamber and having a second valve face which opens or closes against said first valve seat
- a connection rod seating one of said first valve body and said second valve body against the corresponding valve seat while lifting the other valve body away from the corresponding valve seat; and

a solenoid coil section driving said first valve body and said second valve body in an opening or a closing direction via a solenoid rod ;

wherein said solenoid coil section controls a pressure load according to a specified input given to a controller in which said input is defined as a sum of a pressure differential ($P_d - P_{c1}$) between said discharge pressure and said first control chamber pressure , multiplied by a pressure receiving area of said first valve body receiving said pressure differential between said discharge pressure and said first control chamber pressure , and a pressure differential ($P_{c2} - P_s$) between a pressure in said second control chamber pressure and said suction pressure , multiplied by a pressure receiving area of said second valve body receiving said pressure differential between said second control chamber pressure and said suction pressure .

2. A capacity control method of a capacity control valve for controlling the pressure or the capacity of a control chamber by making a fluid of discharge pressure flow from a chamber of said discharge pressure into said control chamber by means of the control of said capacity control valve while letting a fluid of control pressure flow out of said control chamber to a chamber of suction pressure by means of the control of said capacity control valve, wherein a first valve body and a second valve body of said capacity control valve are opened or closed in accordance with a specified input given to a controller in which said input is defined as a sum of a first pressure differential ($P_d - P_{c1}$) between said discharge pressure and said first control chamber pressure , multiplied by a pressure receiving area of said first valve body receiving, in the direction of opening of said first valve body , said pressure differential between said discharge pressure and said first control chamber pressure , and a second pressure differential ($P_{c2} - P_s$) between a second control chamber pressure and said suction pressure , multiplied by a pressure receiving area of said second valve body receiving, in the direction of

opening of said second valve body , a said pressure differential between said second control chamber pressure and said suction pressure .

3. A capacity control method of a capacity control valve according to claim 2, wherein said first pressure differential ($P_d - P_{c1}$) is detected by a first pressure sensor disposed in a communicating passage between said discharge pressure chamber and said control chamber, said second pressure differential ($P_{c2} - P_s$) is detected by a second pressure sensor disposed in a communicating passage between said control chamber and said suction pressure chamber, and the detected pressure measurements are inputted to a controller to calculate the pressure load.